Innovation as *Ethos*

Moving Beyond CSR and Practical Wisdom in Innovation Ethics

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Abstract

In this chapter, I philosophically reflect on the management of corporate responsibility in the case of innovation. I first set the scene by contrasting responsibility in corporate social responsibility (CSR) and innovation ethics, and arguing that classical conceptualizations of backward and forward looking responsibility are inappropriate in the case of innovation. Next, I introduce the concept of responsible innovation as a lens to understand the management of corporate responsibility in the case of innovation and show that the notions of virtue ethics and practical wisdom are inappropriate for understanding what is at stake in innovation ethics, because the notion of practical wisdom is at odds with the nature of innovation. I conclude this chapter by proposing a concept of action-based responsible management of corporate innovation, which will be framed in terms of innovation as *ethos.*

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Introduction

An emerging topic in the field of business ethics and philosophy of management concerns innovation ethics. While the main attention of the business ethics literature focuses on the strategic and operational level of corporate social responsibility (CSR) or on the individual level of leaders, professionals, and employees, the particular context of research and development (R&D) and innovation is often not addressed (see Lee 2005 for an exception). This is surprising because innovation can, on the one hand, be seen as the key driver for the competitive advantage of companies in highly competitive markets while, on the other hand, the development of new high-tech products and services involves high risks and raises societal resistance, ranging from questions related to unforeseen risks of new product developments like fracking to long-term health impacts of new nano-technological products, and from questions regarding privacy infringements via algorithms to inter-generational justice in light of our current exhaustion of scarce earth metals by the production of consumer products.

One would expect that questions regarding innovation ethics can be explored by applying the CSR literature in the context of innovation (Iatridis and Schroeder 2015). This is legitimate to the extent that CSR is concerned with the responsibility of a firm beyond their traditional objective of profit maximization, i.e., the ethical norms and social values that have to be taken into account in corporate decision-making processes. Extended to innovation processes, CSR is then concerned with the consideration of these ethical norms and social values in innovation practices. And yet, the extension of the domain of application of CSR to innovation practices is not self-evident and may turn out to be inappropriate. Such an extension is not self-evident, first, because CSR is part of the *governance* processes or *supporting* processes of a company, comparable with communication or human resource management (HRM), while innovation is part of the *primary* process of R&D-based companies like Philips and Google. Therefore, CSR is often embedded at the corporate level, for instance as a corporate CSR department and as part of the higher management structure, while innovation takes place at the level of new product development as part of the R&D and business operations. We can argue therefore that innovation ethics requiring that responsibility is no longer an issue of higher management, and becomes integral part of the business operations. Second, while the innovation process directly contributes or should contribute to the competitive advantage of the firm, CSR often contributes only indirectly, or in a derivative sense, such as safeguarding brand reputation or compliance, i.e., in parallel with other product characteristics that directly add value for customers. We can argue that innovation ethics requiring that responsibility is no longer a "side event" of the company but becomes part of the core business. These two arguments show

that the extension of the domain of application of CSR to innovation processes is inappropriate because CSR and innovation have different roles, functions, and locations in the structure of the firm.

In this chapter, I philosophically reflect on the management of corporate responsibility in the case of innovation. I do not ask whether corporate social responsibility is possible but focus on how the moral role of managers can be employed in the particular domain of innovation. In the first section, I set the scene by contrasting responsibility in CSR with innovation ethics, and argue that classical conceptualizations of backward and forward looking responsibility are inappropriate in the case of innovation. In the second section, I introduce the concept of responsible innovation (RI) as a lens to understand the management of corporate responsibility in the case of innovation. I find that the contrasting concepts of Corporate Social Responsibility (CSR) and Corporate Social Performance (CSP) are mirrored in two approaches of RI, namely the substance normative approach and, respectively, the procedural approach, and call for the integration of the two approaches in innovation ethics. In the third section, I critically discuss the notion of virtue ethics and practical wisdom as a potentially progressive way to integrate both approaches in the responsible management of corporate innovation. It will turn out that the notion of practical wisdom is at odds with the nature of innovation and has to be rejected. In the fourth section, I propose a concept of action-based responsible management of corporate innovation, which will be framed in terms of innovation as *ethos.* The fifth section summarizes my conclusions.

Contrasting Responsibility in CSR with Responsibility in Innovation Ethics

If we compare the notion of responsibility applied in CSR with the one at stake in innovation, we note a substantial difference. In practice, CSR is often restricted to backward looking responsibility (Pellé and Reber 2015). A company can be held responsible in case it performs an act that transgresses a pre-existing rule or norm; it breaks the law or transgresses an ethical norm. The firm is accountable in case it can be blamed for this outcome – carcinogens in paint or plastics, for instance – and liable to pay for the damage caused in case a consumer actually gets cancer due to the use of these products. This type of responsibility is called backward looking because responsibility is retrospectively assessed based on pre-existing norms and standards.

A first problem with this "legalistic" account of responsibility in the context of innovation is that regulation is often not able to catch up with new innovations (Lee and Jose 2008; Owen et al. 2013; Pellé and Reber 2015). While new laws and norms are often developed as a response to past challenges, innovations concern new situations that are often not covered by existing rules and regulations. Furthermore, while rules may prevent hard impacts like death and harm, soft impacts on society or human wellbeing, such as shale gas or digitalization of health care, are often too subtle to be covered by new laws or too ambiguous because impacts are not univocally harmful (Swierstra and te Molder 2012). Furthermore, innovations

often influence the way we conceive values, norms, and responsibilities. For instance, the improvement of prenatal screening and diagnostic technologies changes the responsibility we have for children that suffer from Down syndrome or dwarfism. This example of a techno-moral change (Swierstra 2017) shows that rules are not just *applied* on new innovations; in turn, these innovations may change or even disrupt dominant rules and values. Finally, while rules may prevent irresponsible corporate behavior in the case of a clear causal link between the individual innovator and the negative outcomes, rules are not so easily applied in the case of innovations that have many different origins and complex or uncertain impacts, and where many actors are involved (van de Poel et al. 2012). If many individuals can be held responsible, the risk is that nobody can be held responsible anymore. In other words, backward looking responsibility may be at stake in traditional CSR but is not appropriate in the context of innovation ethics.

There is also a stream in the CSR literature that is more concerned with forward-looking responsibility. It concerns the anticipation of what the company wants to achieve with its CSR policies, for instance reduced climate impact or improved livelihood of smallholder suppliers in developing countries. Instead of *being held* responsible, the company *takes* responsibility for certain outcomes and becomes aspirational. By monitoring a product's life cycle and by measuring the long term social and environmental consequences of that product based on a set of norms (e.g., ISO 260000), CSR can proactively assess the consequences of new product innovations (Pavie et al. 2014 cf. Pellé and Reber 2015). This assessment of consequences requires additional investments in anticipatory and reflective capabilities. On the one hand, taking responsibility for one's own actions this way requires that companies reflect on the possible consequences of corporate behavior and anticipate negative future impacts. On the other hand, a particular course of action becomes dependent on the corporate assessment of the anticipated risks or desired state, while the context of application may change over time and transform the way we assess this desired state or anticipated risks retrospectively (Grinbaum and Groves 2013).

It is often argued that ideal consequentialism would require the calculability of the societal benefits of corporate actions to the happiness of all, which in turn requires optimism about the role of knowledge and rationality (Pellé and Reber 2015). However, this is practically impossible in case of complex challenges like global warming and world poverty (Blok et al. 2016). Similar difficulties occur in the case of corporate innovation, since:

1. Knowledge is always contested because many stakeholders apply different value frames and have different assessments of the risks involved.
2. Knowledge is always fallible because our understanding of ethical issues is always biased by our own interests and value frames (Blok 2014) and by our cognitive biases (Kahneman 2012).
3. Knowledge can be used as an excuse to not be held responsible (exculpatory ignorance): if one does not have (scientific) knowledge about possible consequences of innovations one cannot be held responsible (Grinbaum and Groves 2013).

4. Knowledge is insufficient because innovations will always have unexpected outcomes and are, in fact, unpredictable (Blok and Lemmens 2015; Ozdemir et al. 2011): they become "black boxes" that are embedded in, interact with, and are intimately interconnected with the natural environment, and this increases their autonomy and unpredictability (Nordmann 2005).

In other words, forward-looking responsibility may be at stake in CSR but its effectiveness is questionable in the context of innovation, where our *epistemic insufficiency* becomes salient: our knowledge of the problem (e.g., climate change or world poverty) is essentially imperfect and therefore insufficient to distinguish between ultimately good and bad innovations relative to solving this problem (Blok 2018a).

If consequentialism requires knowledge about future impacts of innovation, while we are confronted with our epistemic insufficiency regarding innovations and their consequences, this raises the question of what responsibility actually means in the context of innovation. Even if we argue that corporates can be held responsible for the future impacts of their innovation, given their ignorance and lack of foresight (which are part of the risk they take), the question is how ethical considerations can be made part of corporate decision-making processes regarding innovation.

Risk-taking is not necessarily problematic from an entrepreneurial perspective, because risk is traditionally seen as one of the main characteristics of entrepreneurship. Knight (1921) distinguishes between insurable and uninsurable risk, and argues that corporations take an uninsurable risk by exploiting business opportunities that are highly uncertain upfront, for instance investments in new innovations without any guarantee of sufficient returns on investment. The future impact of innovations can be seen as an uninsurable risk, but this does not concern the entrepreneurial risk that can in the end lead to the success or bankruptcy of the company (Blok 2018a). The difference between entrepreneurial risks and the risks concerning the future impacts of innovations is that the uncertainty relating to entrepreneurship is not necessarily problematic – one could argue that the free market decides which entrepreneur will be successful in his or her risk assessment – whereas uncertainty relating to future impacts of innovations is in fact problematic because it may have enormous negative societal consequences and can disrupt the sociopolitical order. On the one hand, no insurance can cover the risk of negative impacts of new technologies like GMOs, nanotechnology, or synthetic biology for future generations. On the other hand, corporations will have an interest in reducing these risks by lobbying for the societal acceptance of new technologies, for governmental interventions to increase the public acceptance of innovations (one can think of GMOs), or for new rules and regulations that decrease their risk of compensation in case of a catastrophe (one can think of the US Prince Anderson Act, that limited the insurance that nuclear power industry had to pay in case of a nuclear catastrophe, cf. Dusek 2006, p. 107).

The question therefore remains: what does responsibility entail in the context of innovation, and how can corporations "take" this responsibility beyond the mere *acceptance* of the risks involved, and beyond the false sense of *security* provided by the consequentialist calculation of future impacts?

Responsible Innovation

It is in this context that the emerging concept of Responsible Innovation (RI) is important to consider. Emerging in the European policy context to align ethical concerns and societal interests with public investments in research and innovation (R&I), responsible innovation has developed as a governance framework in which "societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products" (von Schomberg 2013). Although the concept of RI is sometimes criticized because it lacks an explicit reflection on the notion of ethical responsibility (Pellé and Reber 2015), while its application in industry is still in its infancy (Lubberink et al. 2018), it may provide a good starting point for the development of a forward looking innovation ethics which, at the same time, acknowledges our epistemic insufficiency.

In the literature on responsible innovation, two broad traditions can be distinguished. First, there is a normative substantial approach that starts with norms and values as predetermined (substantial) inputs in the innovation process in order to generate responsible outputs, i.e., products and services that serve society (von Schomberg 2013). Secondly, there is also a procedural approach, which focuses primarily on the innovation *process* and the way actors anticipate risks, reflect on desirable outcomes, and engage stakeholders to this end (Ruggiu 2015). The procedural approach does not proclaim predetermined normative claims regarding the output of the innovation process but focuses primarily on the responsible governance or management of the innovation process itself (Lubberink et al. 2018). According to the dominant view on the responsible innovation process, responsible management concerns four dimensions: *anticipation* of possible and unexpected risks; *reflection* on intentions and purposes; *inclusion* of and *deliberation* with societal actors; and *responsiveness* toward societal concerns and needs (Owen et al. 2013). While the normative substantive approach of RI is criticized because unilateral and shared values cannot be identified in case of complex societal problems like global warming (stakeholders have in fact different and often opposed value frames), the procedural approach is criticized because stakeholder inclusion and deliberation cannot replace the normative questions involved in such complex situations and cannot replace ethical considerations (Blok 2019a). Agreement among stakeholders does for instance not necessarily exclude biases regarding race, gender, etc.

The dominance of the procedural approach to RI in the European context may be explained by the fact that unilateral and shared values are currently lacking. One explanation is the dominance of political scientists and sociologists in the discourse, who see responsibility as a social construction that emerges from practices and processes (cf. Pellé and Reber 2015). Beside this disciplinary explanation, however, there is also a cultural one: it is questionable whether a pluriform society like the European Union can in fact share any substantive value. Recent tensions between western and eastern European countries regarding the democratic values of Europe and the desirable attitude toward refugees clearly shows a heterogeneity of values that are difficult to align. And even if we disregard these cultural differences, the

earlier mentioned epistemic insufficiency regarding complex challenges like global warming makes it difficult to select a limited set of shared values. Because of this, the procedural approach to responsible innovation often leads, implicitly, to a relativistic position regarding ethics, where the normative dimension of innovation is dismissed in favor of a sociopolitical agenda.

The debate between the normative substantial approach and the procedural approach in the RI literature can be compared with the debate between Corporate Social Responsibility (CSR) and Corporate Social Performance (CSP) in the business ethics literature. CSR is criticized because its operational meaning is vague, no institutional mechanisms are available to operationalize it in practice, and practical guidance is missing in how to make trade-offs between economic and social or environmental dimensions of business operations (Frederick 1994). As a response to the impracticality of CSR, CSP is developed and focuses on practical company performance (Swanson 1999). CSP can be defined as "a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships" (Wood 1991, p. 693). Instead of ethical *responsibility,* CSP focuses on practical *responsiveness*, as it is substantiated in social policies that formulate corporate goals (e.g., see corporate goals formulated in terms of emission targets), in social programs that list the instruments and measures to achieve these social policy goals (e.g., ISO 14000), and in social impact as a result of the social programs that are put in place. Through this approach, CSP seems to avoid complex ethical questions about what we *should* do and the ethical values involved in the decision-making process, and focus on the practical question of what we *can* do (Wartick and Cochran 1985).

However, it is doubtful that CSP is possible without any normative framework, i.e., without CSR. If there is no ethical principle, what else can in the end persuade companies to engage in CSP? Swanson (1999) convincingly showed the interdependency of theory (responsibility) and practice (responsiveness). Without the focus on corporate responsible *performance,* corporate social *responsibility* may indeed remain abstract. But without the focus on corporate social *responsibility*, corporate social *performance* may remain simplistic (Swanson 1999). In a similar vein, we can argue that, without the focus on the responsible management of the procedures and practices of value inclusion and value attunement via public engagement and inclusion and deliberation practices, the normative substantial approach of responsible innovation remains abstract. And, at the same time, without the focus on substantive normative values, the procedural approach of responsible innovation remains simplistic because we are reducing the ethical issues to a matter of governance, i.e., we are limiting the nature and scope of the "problem" – its complexity, uncertainty, and ambiguity – to an effort to find operational "solutions."

What we can learn from the debate about CSR and CSP is, first of all, that responsible management of the innovation process requires both predetermined substantive normative values *and* procedures to enhance the social desirability, ethical acceptability, and sustainability of corporate innovations. Secondly, we can also learn that our epistemic insufficiency regarding the future impacts of innovation

does not necessarily have to lead to an ethically relativistic position dominated by a procedural approach to responsible innovation: the normative question of what we *should* do in corporate innovation practices is still legitimate and necessary to ask, although not necessarily easy to answer with a limited set of substantive values. Thirdly, we can learn that ethical innovation is also needed in order to develop a concept of innovation ethics that integrates the advantages of both the normative substantive approach and the procedural approach to responsible innovation.

The Applicability of Virtue Ethics and Practical Wisdom in Innovation Ethics: A Critical Assessment

Moral innovation is often found in a virtue ethical approach to innovation based on practical wisdom (Grinbaum and Groves 2013). The origin of virtue ethics can be found in the work of Aristotle, who sees *eudaimonia* (happiness) as the content of the good life, and virtues as character traits of a person that determine the actual behaviors needed to achieve the good life (Aristotle 1990, 1105b25–30). A responsible manager of innovation should not operate in a responsible and honest manner because he or she expects punishment or reward but because he or she values integrity, honesty, or telling the truth in itself. Because it is quite difficult to exercise virtues like integrity and honesty perfectly, we need practical wisdom (*phronesis*) to decide how we ought to innovate in a given situation in order to achieve responsible innovation: "Phronesis is the ability to assess a given situation and choose the best and most efficient *action* to achieve the universal highest human good, *Eudaimonia*. . . A key concept in this regard is deliberation as it allows the agent to see what he or she should do when facing a practical problem" (Mejlgaard et al. 2018). While an innovator lacking practical wisdom may sometimes disregard societal concerns or ethical objections against the innovation at hand (think of a corporation in the area of social media that sells customers' private data to the market without any ethical restrictions), practically wise innovators know which level of privacy violation is acceptable (e.g., tailor made advertisements) or harmful (e.g., fake news to manipulate voting behavior) in a given situation. In this respect, applying Aristotle (1990, 1106a25–b10), virtuous innovations are conceived as innovations in between the extremes of excess (i.e., being too sensitive to privacy violation, which destroys any possibility to develop a viable business model) and deficiency (i.e., being irresponsible with regard to privacy rules and regulations). In other words, virtue ethics is concerned with the disposition or *ethos* of the innovator to do the right thing, and virtue in combination with practical wisdom is the ability to actually do this right thing in a given situation (Hursthouse 1999, cf. Blok et al. 2016).

Virtues are only fully developed when deployed in combination with practical wisdom (Aristotle 1990, 1144b10–20). One can think of sustainable entrepreneurs who innovate in the best interest of their clients *and* for the environment by doing

the right thing in a given situation: defending unsustainable business opportunities in favor of profitability is not virtuous, just as giving up aspirations for responsibility too easily under pressure of market considerations fails to be virtuous. The practically wise innovator has this knowledge of how to act in a given situation shaped by the ambition to succeed as innovator as well as to apply virtues like honesty and integrity. As a result, he or she is able to innovate in a "good" way, i.e., in accordance with a happy (*eudaimon*), good, or virtuous life. For Aristotle, the good life consists in our actual living and acting virtuously, i.e., in the actual application of virtues in a way that is practically wise (Aristotle 1990, 1098b15–20; Kraut 2014; Blok et al. 2016).

The advantages of virtue ethics in conceptualizing innovation ethics are clear. Because it focuses on the personal engagement and agency of the innovator in taking action and responsibility (Blok et al. 2016), virtue ethics solves the lack of normative engagement that occurs in legalistic conceptualizations of responsibility, as well as the lack of agency in institutionalized responsibility frameworks (Pellé and Reber 2015). It is for this reason that virtue ethics and *phronesis* are proposed in the context of responsible innovation (Sand 2018; Mejlgaard et al. 2018). They enable a conceptualization of responsible management of innovation processes where anticipation, reflection, inclusion and deliberation, and responsiveness play a major role.

However, one can also question to what extent innovation and practical wisdom can tolerate each other. If we consider the history of innovation, starting with the Greek philosophers, we note that they are negative about innovation because it can disrupt the political order and can lead to revolution (Blok 2019b; Godin 2015). Aristotle's idea that innovation (*neotherizein)* concerns the introduction of change in the established political order is consistent with contemporary concepts. Indeed, innovations like geoengineering and synthetic biology can disrupt the sociopolitical order and, especially because of this risk, we expect that these innovations be managed in a responsible way.

This responsible management of innovation cannot be found in *phronesis.* According to Aristotle, practical wisdom is precisely the *antidote* to innovation. To counter innovation, Aristotle's advice is to "avoid extremes" (Aristotle 1944, pp. 1310b1–1316a10). This "principle of the middle way" (Godin 2015) by avoiding extremes is practical wisdom (*phronesis*) defined as finding the middle ground. In this respect, innovation as disruption of the established sociopolitical order by the introduction of something radically new (i.e., the extreme) can be seen as opposed to practical wisdom as finding the middle ground by avoiding extremes. The argument in favor of *phronesis* as a strategy to develop responsible management of innovation may therefore sound progressive but, instead of making innovation more responsible, it disregards the nature of innovations that call for innovation ethics. This means that, in effect, the disruptive nature of innovations like geoengineering or synthetic biology, for example, cannot be served by practical wisdom. We may even argue that innovation and practical wisdom are opposed to each other.

Innovation as *Ethos:* Toward an Action-Based Concept of Responsible Management of Innovation

The history of innovation also provides the point of departure for a more appropriate conceptualization of innovation ethics. Innovation is not primarily connected with cognition but with action and behavior. The vocabulary around innovation in the twentieth century is constituted in discussion with "invention" and "action" (Godin 2015). While invention is understood as a mental or cognitive process (i.e., the creation of a new idea), innovation is primarily practical in nature, involving the application of a newly invented idea in a marketable product or service. It concerns the action of the introduction of something new and the result of that action, namely the application of an invention in a new marketable product. As such, innovation is understood as *doing* something new as opposed to the cognitive or mental process of invention. It is not just putting ideas to work but the adoption of new behaviors and new practices, such as bringing new things into being, bringing goods and services to the market, etc. This action base of innovation also means that innovator's job is primarily managerial, i.e., to "renew the purpose, content, and structure of his process . . . He is the selective agent of change, the catalyst, the mutation selector" (Morton 1968, p. 60 cited in Godin 2015, p. 252). Innovation is therefore not cognition oriented, but action and behavior oriented (Blok et al. 2016, cf. Starbuck 1983). This insight provides the opportunity to develop an action theoretical concept of innovation ethics, where knowledge and intentions are no longer decisive but only actual responsible innovation management practices constitute an innovation ethics. The ethical significance of this action-based concept of responsible innovation consists in the ability to actively involve oneself in responsible action and behavior to improve the social desirability, ethical acceptability, and sustainability of innovations (see Lu et al. 2012 for empirical findings in this direction). In this context, ethics becomes *ethos,* i.e., the human attitude of the responsible innovator or of the responsible manager of the innovation process.

Elsewhere I have explored such an action-based notion of innovation ethics in greater detail, and in discussion with the CSR and responsible innovation literature (Blok 2019a). In the context of this chapter, I limit myself to the proposal of four action- and behavior-oriented characteristics of the responsible *ethos* of the manager of innovation processes that can constitute an innovation ethics:

1. Contrary to the cognitive approach to innovation ethics, which finds its point of departure in the *stakes* or interests of society, we find our point of departure in the social–ethical *relation* of corporate innovation practices with the societal demands and needs they represent to act and behave in a responsible way. It is to these situational and singular demands and needs of the society in which the company operates, that corporate innovation practices should be responsive and that should guide our responsible management of innovation processes. The demands and needs of society are normative without necessary calling for a universal norm. The ethical dimension of innovation consists in the responsible management of corporate innovator's responsiveness to these demands and needs.

2. Contrary to the cognitive approach to innovation ethics, which finds its point of departure in the best *intentions* to respect the situational and singular demands and needs of society, we find our point of departure in the actual performance of ethical behavior in response to the demands and needs of society. Only in the responsible management of corporate innovation's responsiveness toward society, the moral intention of corporate innovation is *real.* This performance of innovation ethics does not require universal norms but calls for action, here and now, and is dependent on the circumstances in which problems emerge and can be addressed. In this respect, the singularity of the circumstances in which ethical issues in innovation processes emerge and have to be managed highlights the limitations of cognitive orientations in innovation ethics.
3. Contrary to the cognitive approach to innovation ethics, which finds its point of departure in the self-expression of the interests and value frames of actors in order to *convince* other stakeholders, we find our point of departure in the possibilities society provides to become critical toward our current corporate innovation practices and to become responsive to the demands and needs of society. Instead of convincing the other, it primarily enhances self-criticism and calls for the active involvement of oneself in responsible action in innovation practice (see Riivari and Lamsa 2014 for empirical findings in this direction). In a mutually responsive process, societal needs can question the legitimacy of corporate innovation practices and, at the same time, corporate innovation practices can become responsive to the demands and needs of society.
4. Contrary to the cognitive approach to innovation ethics, which finds its point of departure in corporate immunization strategies to prevent societal criticism of their innovation practices, we find our point of departure in a vulnerability strategy in which the possibility of societal criticism is enhanced. Our understanding of the downside of innovation is always limited and biased by our own interests and value frames, while our epistemic insufficiency makes it impossible to predict future impacts of innovations. The vulnerability strategy of innovation ethics consists in an active engagement with society in order to define the appropriate impact of innovation, prevent innovation lock-in and path dependency, enhance corrigibility, and accommodate plurality in innovation strategies (Blok 2019a).

Conclusion

In this chapter, I raised the question of how the moral role of managers can be employed in the domain of innovation. Firstly, I contrasted responsibility in CSR and innovation ethics, and found that classical conceptualizations of backward and forward looking responsibility were inappropriate in the case of innovation. Secondly, I introduced the concept of responsible innovation as a lens for understanding the management of corporate responsibility in the case of innovation; found that the contrasting concepts of Corporate Social Responsibility (CSR) and Corporate Social Performance (CSP) are mirrored in two approaches of responsible innovation, namely the substantive normative approach and the procedural

approach; and called for the integration of the two approaches in innovation ethics. Thirdly, I critically discussed the notions of virtue ethics and practical wisdom as a potentially progressive way to integrate both approaches in the responsible management of corporate innovation. My analysis suggests that the notion of practical wisdom is at odds with the nature of innovation and has to be rejected. Fourthly, I proposed an action-based concept of responsible management of corporate innovation, as well as four characteristics of innovation as *ethos* of responsible innovators and managers of innovation processes.

This argument provides a first conceptual step in the development of an innovation ethics that can guide innovation managers in their responsible management of corporate innovation practices. Philosophical reflection on innovation ethics is still in its infancy. In 2018, a first special issue on philosophy of innovation was published in *Philosophy of Management.* In the introduction of that special issue, Blok (2018b) provided a research agenda for a philosophy of innovation, which can also inform the further development of a philosophical concept of innovation ethics. It raises general philosophical questions about the connection between innovation and market economy (cf. Schlaile et al. 2018; Hühn 2018), about the societal beneficiary of innovation, and about the compatibility between responsible innovation and market economy. It also raises questions such as: to what extent can firms be held ethically responsible in case of innovation with unknown and unintended consequences (cf. Kamishima et al. 2018; Hammershoj 2018)? and what does responsibility mean in case of unknown future impacts (Blok 2018b)? The argument presented here is a first step in answering these important questions.

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